IN THE UNITED STATES PATENT & TRADEMARK OFFICE
Before the Primary Examiner

In re Application of:
HAROLD R. KAUFMAN et al.
Serial No. 09/848,644
Filed: May 3, 2001
For: IMPROVED HALL-CURRENT ION SOURCE

Group Art Unit: 2879

Examiner: Holly R. Harper

Attorney Docket No. 353-07

Hon. Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF HAROLD R. KAUFMAN

HAROLD R. KAUFMAN, being duly sworn, deposes and states as follows:

1. I am one of the named inventors in the above-identified application.

2. I have read the Office Action mailed October 16, 2003 and the prior art reference (Kaufman, U.S. Patent No. 5,763,989) cited by the Examiner.

3. As explained in my previous Declaration, the phrase "increase the area of said surface by approximately one-half" is not indefinite as used in our specification or claims. The quoted phrase has reference to the "electron-collecting surface" which is defined in our specification (para. 0040) as "the anode surface readily available and utilized for electron collection". The increase in area of the electron-collection surface necessarily means an increase as compared to the same area without the recesses or protrusions being present.

4.(a) The cited Kaufman patent (U.S. Pat. No. 5,763,989) describes an ion source. Such patent does not describe or suggest use of anode having an electron-

collecting surface which has been contoured with a plurality of recesses or protrusions. Further, as explained in my previous Declaration, the electron-collecting surface of the anode in Fig. 11 of the cited patent is the annular area exposed when viewing the ion source from the right (the location of the target). Anode areas both inside and outside the anode that are not included in this annular area can be reached only by crossing additional magnetic field lines; hence, such anode areas cannot be included in the "electron-collecting surface". The inside of the anode also is not accessible to discharge electrons because of the high pressure therein and the small access holes. Discharge electrons do not reach the interior of the anode in Fig. 11 during normal operation.

(b) The cited Kaufman patent does not describe or suggest an anode having a plurality of conducting layers separated by a respective plurality of non-conducting layers, wherein the non-conducting layers extend beyond the conducting layers. Such construction is described in connection with our Figs. 4 and 4A in our present application.

(c) The cited Kaufman patent does not describe or suggest an anode having a continuous spiral recess in the electron-collecting surface.

5. The present invention is not described in the cited reference. Further, the present invention would not be obvious to a person of ordinary skill in this art based upon the teachings of such cited reference.

6. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of

Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 6 January 2004

Harold R. Kaufman